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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,706	07/25/2003	Jung-jin Kim	Q75899	2681
23373	7590	12/14/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,706

Applicant(s)

KIM ET AL.

Examiner

YOUNG T. TSE

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 6-7 and 9 are objected to because of the following informalities:

In claim 6, lines 3 and 8, the terms "channel states of an inputted signal by means of a filed" and "of channels stored in the N number of buffers" should be "the channel states of the inputted signal by means of the filed" and "of the channels stored in the N number of the buffers", respectively. Wherein claim 7 depends on claim 6.

In claim 9, lines 2 and 3, the terms "N of buffers", "N of channels" and "N of field syncs" should be "N of the buffers", "N of the channels" and "N of the field syncs", respectively, in order to provide connection or cooperation with the precedent claims 1 and 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 (lines 5-6), claim 2 (lines 5, 6, 7-8, 8 and 8-9), claim 5 (line 6), claim 6 (lines 6 and 9), and claim 7 (lines 1-2), the terms "the judged channel state", "the state information", "the filed syncs", "the N number of channels", "the N number of buffers", and "the channel state" all lack antecedent basis.

In claims 2 and 6, the reference sign "N" is undefined.

Wherein claims 3-4 and 9 depend directly or indirectly on claim 1 and claim 8 depends on claim 5.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4-5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (U.S. Patent No. 5,973,725).

Lee discloses a VSB or HDTV receiver in Fig. 3 comprising an interference rejection filter (NRF) 308, a post processor 318, an NRF selection controller 326 and an adaptive equalizer 312. The detail embodiment of the NRF selection controller 326 is shown in Fig. 4 which comprises an inverse NRF 328 and an NRF selection determiner 330.

With respect to claims 1 and 5, the NRF 308, the post processor 318, and the NRF selection controller 326 correspond to the channel state judging section or step for judging channel states of an inputted signal by using a field sync of the inputted signal, Lee teaches that in most determinations for the selection of the NRF performed by the NRF selection determiner 330, the channel states of the NRF path and non-NRF path are detected using the data of a known signal period (data of the field sync segment period in the case of GA-VSB signal), to select the channel with the best channel condition (see column 5, lines 10-15); and the adaptive equalizer 312 corresponds to the equalizing section or step for compensating in a well known manner in a VSB or HDTV receiver for a channel distortion of the inputted signal by initializing a parameter on the basis of the judged or determined channel state.

With respect to claims 4 and 8, a field sync of the field sync segment used in a well known VSB or HDTV receiver is a PN sequence.

7. Claims 1, 4-5 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by anticipated by Jeong et al. US 2003/0223519 A1 (hereinafter "Jeong").

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

Art Unit: 2611

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Jeong discloses a VSB receiver in Fig. 6 comprising a synchronization detector 140, an extractor 220, storage 240, and an equalizer 260. See abstract and paragraph 0042.

With respect to claims 1 and 5, the extractor 220 and storage 240 correspond to the channel state judging section or step for judging channel states of an inputted signal by using a field sync of the inputted signal, Jeong teaches that the storage 240, if a transmission channel state for a VSB broadcast signal is a dynamic state varying with time, stores the segment synchronization information by unit of N data segment, further, if a transmission channel state for a VSB broadcast signal is a static state not varying with time, stores the segment synchronization information by field unit (see paragraph 0048); and the adaptive equalizer 312 corresponds to the equalizing section or step for compensating for a channel distortion of the inputted signal by initializing a parameter on the basis of the judged or determined channel state (see paragraph 0003).

With respect to claims 4 and 8, wherein the filed sync is PN sequence (see paragraph 0037).

Allowable Subject Matter

8. Claims 2-3, 6-7 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oh is related to a receiver for receiving a high definition signal and employing an NTSC rejection filter for eliminating noise and other interference from the high definition signal.

Bouillet et al. is related to a receiver for processing a vestigial sideband (VSB) modulated signal containing terrestrial broadcast high definition television information.

Hong et al. is related to a digital television (TV) receiver using a VSB system, and timing recovering apparatus and method for the digital TV receiver.

Omura et al. is related to the use of equalizers for receivers in the digital television broadcasting industry.

Lindoff et al. is related to synchronization of signals and a method and system for selecting a particular technique for synchronizing to a radio signal based on radio channel conditions.

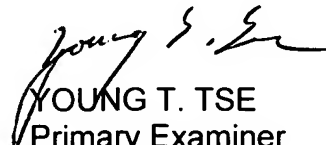
Fimoff et al. is related to equalizers that adapt to the condition of a channel through which signals are received.

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


YOUNG T. TSE
Primary Examiner
Art Unit 2611